

## FORMING OF NEW EDUCATIONAL PARADIGM OF PREPARATION OF SPECIALISTS IS ON INTELLECTUAL PROPERTY IN CONTEXT OF REQUIREMENTS OF BOLONSKOGO OF PROCESS

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### Abstract

*The substantive provisions of on-line tutorial are considered on preparation of specialists in area of intellectual property on the economic faculty of the Kharkov polytechnic university in the light of requirements of the Bolonskogo process and credit-module system of estimation of knowledges*

Every century of видвигає on the court of humanity separate types of the intellectual achievements, which are accepted or not perceived society. History of humanity shows by itself the cemetery of cultures which was not able to adapt oneself to the changeable environment [1]. In this context the fundamental condition of adaptation and progress, to our opinion, an adequate management of the human measuring of changes, the central factor of which is human development, which, in same queue, is multidimensional conception, is: welfare, health, indexes of birth-rate and death rate, even educations and freedoms and also many other components. The human measuring of changes and development is determined by character and efficiency of the use and other production factors. In 1970th the system of the programs of development of UNDP (United Nations Development Program) at global level close beginning of serious discussion of basic problems, necessities and priorities of human development, the results of which are represented in annual lectures from human development (Human Development Report), which is the attempt of measuring and comparison of human development status in different countries by the index of human development, which has three components [4]: life-span; financial welfare; knowledge.

Regardless of political ideologies and system factors, today education is examined as obligatory precondition of human progress, socio-economic development and international competitiveness. At the beginning of 2000 item education and other forms of investments in a human capital became the especially important sources of all other factors, instrumental in their adaptation to the changeable technical and intellectual necessities of the world. Education also helps citizens better to realize the social and individual responsibility.

At the beginning of 2000 item world interest to education is caused a few factors [1]:

- passing to the informative economy promoted importance of education as a basic source of knowledges and stimulation of development;
- education is the major state instrument of increase of potential of country;
- a presence of direct connection is between the level of education, employment and profits;
- the higher levels of educational achievements contact with the best integration of labour-market;
- education influences not only on efficiency of labour but also on a social conduct, in particular – hygiene, increase of social-and-ecological consciousness, quality of education of children, increase of political activity;
- for many countries higher education became character of prestige.

Growing importance of knowledges draws changing of social role of universities. Except for their traditional functions as establishments of higher education and base scientific researches, universities are the potential agents of the regional economy growing. In opinion of P. of Drukera, there is not sense to find out, that appeared the first is stormy development of education in the last age or management which uses these knowledges practically. A modern management and modern enterprise can not exist without the base of knowledges, which was formed by society. However, de autre part, preeminently a management is provided by efficiency of the use of human and intellectual potentials. A management converted knowledge from a social decorative pattern and article of luxury

on the real capital of any economy [3].

In this context, as in our view, receptive are aims and ideas of Bolonskogo of process which began on initiative a minister for education 29 European countries and was legalistically based on their meeting in 1999 year in Bolon'I (Italy). It is a process of creation of European space of higher education (European Higher Education Area – ENEA) on principles of aims (obligations), formulated in Bolonskiy of declaration (1999) and subsequent official records of Bolonskogo of process, – Prague (2001), Berlin (2003) and Bergenskomu (2005) of communiques, which was accepted ministers, accountable for higher education, on summits in Prague, Berlin and Bergen. To this documents it is needed to attach Large Charter of Universities – Magna Charta Universitatum (1988) and Lisabonsku Convention about confession of qualifications from higher education in the European region (1997).

The educational systems of countries-participants of bolonskogo of process so differ, that not only process of creation of enea, but also even rapprochement of this systems causes serious difficulties, although for six years after acceptance of bolonskoy of declaration certain progress is observed.

Six aims were proclaimed in bolonskiy of declaration (1999), what країни-сигнаторії planned to achieve to 2010 year:

- acceptance of the system of transparent and comparable degrees, in particular, for help Appendix to the diploma;
- acceptance of the system, higher education based on two main loops;
- introduction of the system of credits, similar to ECTS of the system;
- assistance mobility of students and teachers;
- an assistance the European collaboration is in providing of quality of education;
- assistance development of collaboration between European establishments of higher education, especially in relation to development of curricula, development of charts of mobility and computer-integrated programs of studies and researches.

On the Prague summit (2001) ministers marked on a necessity for the subsequent discussion of three important aspects of European space of higher education, namely:

- a discussion of problems of studies is during life;
- a discussion of problems of role of higher educational establishments and students is in the context of Bolonskogo of process;
- discussion of problems of assistance providing of attractiveness of European space of higher education.

These aspects (next to six зобов'язаннями of Bolonskoy of declaration) came into question on the Berlin summit (2003), where the necessity of establishing more close connections was underline between European space of higher education (ENEA) and European space of researches (ERA). This problem needs to be examined as tenth aspects of Bolonskogo of process.

If in Bolonskiy of declaration it was only proclaimed about intention of creation of European space of higher education, and in Prague ministers confirmed the decision to operate for achievement of the set purpose on a remote enough term (to 2010 year), then in Berlin and Bergen by ministers concrete obligations were accepted in relation to the separate aspects of process.

In particular, in Berlin ministers pledged to 2005 year:

- to carry out reformation or creation of the national systems of providing and estimation of quality of higher education;
- instrumental in ratification of Lisabonskoy Convention all countries-participants of Bolonskogo of process;
- to begin realization of the двоциклічної system of higher education;
- to inculcate Appendix to a diploma, which must be produced in European widely spoken language and which every graduating student, beginning from 2005 year, must get automatically and free of charge.

Bergenskiy a summit for the national system of higher education is a sign, because preeminently on him the official tacking of Ukraine took place to Bolonskogo of process. On this summit ministers pledged:

- to guarantee that higher educational establishments will use необхідною автономією for introduction of the concerted reforms and acknowledged the necessity of the stable financing of institutes;

- instrumental in providing of complete introduction of principles of Lisabonskoy convention from confession and including of them in the proper national legislation;
- to conduct the proper work in relation to development of national structures of qualifications, consonant with the generalized structure qualifications, in European space of higher education.

On Bergenskomu summit it was marked the necessity of continuation to 2007 year of active actions for three приоритетних directions, formulated yet in Berlin:

- system of degrees;
- quality guarantees
- confession of degrees and time of studies.

In relation to the system of degrees Ministers marked on the necessity of the increased dialog between governments, institutes and social partners, for the increase of employment among graduating students with qualification of bachelor, including the proper positions in the field of government service.

Touching quality of higher education guarantees, Ministers appealed to educational establishments with an appeal to continue their effort from підвищення якості of the activity by systematic introduction of internal mechanisms and their direct correlation with external control of quality.

On Bergenskomu summit Ministers marked that key place in Bolonskomu process taken higher educational establishments and called the institute of higher to activate work in relation to creation of European space of higher education, concentrating effort on such приоритетах:

- higher education and research (third cycles of higher education);
- social measuring (availability of higher education);
- mobility of students and teachers;
- attractiveness of European space of higher education.

Aims of Bolonskogo of process, as see, in no way directed on standardization of the educational systems of the European countries, but necessity of rapprochement of this systems for unique Europe on principles of the proclaimed aims already does not cause doubts at swingeing majority of Europeans, participating to higher education. Presently Bolonskiy a process shows by itself the powerful European phenomenon and 45 countries engulf already, and out of his limits legalistically there is only Byelorussia.

In the National technical university the «Kharkiv polytechnic institute» (NTU «KhPI») is developed conceptual of new generation of curricula taking into account the aims of болонського process and credit-module systems organizations of educational process, essence of which directly touches and specialities 8.000002 «Intellectual property» [2].

Pre-condition of development of new generation of curricula is tacking of Ukraine to Bolonskogo of process. The dominant of new generation of curricula is their answering the primary purposes of Bolonskogo of process which is carried out, in the first turns, in interests of students. Thus, the followings aspects of Bolonskogo of process must be taken into account in curricula:

- 1) two cycle preparation of specialists is with higher education;
- 2) introduction of the system of credits;
- 3) an assistance mobility of students is in the process of acquisition of education;
- 4) rapprochement of processes of studies and scientific researches;
- 5) an assistance development of the European aspects is in higher education.

At creation of new generation of curricula it is necessary to take into account also position of Bolonskogo of process in relation to guarantees and upgrading of higher education.

**Two cycle preparation of specialists with higher education** foresees clear qualifying features and programs of preparation in the first and second cycles. new curricula must provide realization of «conceptual principles of development of higher technical education of ukraine in the context of bolonskogo of process», which are accepted the allukrainian conference of rectors of higher technical educational establishments «higher technical education of ukraine and bolonskiy process» (Kharkiv, march in 2004), namely, a bachelor from technical specialities must be ready to professional practical activity at operating level, and master's degree – at level, to the necessity for development of new constructions of machines, vehicles, built on, and also new technologies. consequently, qualification of bachelor needs to be examined not only as establishment of receipt by the graduating student of

base higher education which enables to obtain qualification of specialist or master's degree in subsequent, but as such which enables to nurse labours to the market, executing certain works. In our view, an idea is erroneous that at preparation of specialists on intellectual property the first cycles of preparation do not have the special value, so however much he practically does not influence on quality of studies, where is present only the second cycles. It is followed to consider taking into account such assertion, that quality of preparation at middle school does not influence on quality of preparation of specialists in higher educational establishments which are practically absurdity.

The grant of qualifications the graduating students of the first cycles is foreseen by the redistribution of fundamental and special (professional) disciplines between cycles thus, that, from one side, the graduating students of the first cycles had a sufficient volume of knowledges and abilities, to occupy positions are certain at the market of labour, and de autre part the most difficult sections of fundamental disciplines, necessary for master's degree preparation, were studied in the second loops. At such redistribution a volume and level of fundamental preparation must not be mionectic, and even enhanceable, meaning that the volume of fundamental preparation in the first loops must be stored due to some diminishing of volume of socialhumanitarian disciplines, and a necessary volume and level of fundamental preparation in the second loops must be provided due to transference of certain volume of the special disciplines in the first cycles.

During realization of this principle the special disciplines of operating direction (features of constructions, description, and others like that) must be the preparations concentrated in the first loops, and the most difficult fundamental disciplines (special sections of mathematics, physics, and others like that) must be the preparations carried from the first cycles to the second.

Introduction of the system of credits and credit measuring of volumes of educational disciplines, at which one semester answers 30, and one school year – to 60 credits of ECTS, determination of sentinel "cost" of credit requires the clear planning of all types of educational activity of students. In obedience to the operating chart of educational process, which remains and in the new generation of curricula duration of semester makes 20 weeks (taking into account sessions, test week and week of recovering the academic debt). The a week's volume of the educational loading of student (audience loading and independent work) makes 54 academic hours. Consequently, the semester volume of the educational loading of student makes  $54 \times 20 = 1080$  hours. As a semester volume of the educational loading is distributed on 30 credits, then a sentinel "cost" of credit is  $1080 / 30 = 36$  academic hours.

Creating the new generation of curricula, it is needed to count on ability a middle student to execute all types of educational tasks, planned on a semester, for 1080 academic hours.

Inculcating the system of credits in curricula, it is needed also to mean that transition on credit-module requires the systems of organization of educational process changes of going near a role and volume humanitarian social and military preparation, and also:

- diminishing of volume of the audience loading;
- increase of role and volume of independent work of students;
- limitation of amount of educational disciplines is in one semester.

Most complication will be caused by the change of going near distributing of educational time between the audience loading and independent work of students, change of going near planning of independent work of students, переосмысления of such usual for us concepts, as a session, examinations, tests, term papers and projects, and others like that. The special complications transference of centre of gravity must cause from an audience to independent work of students, combination of studies, with research work. Transition to credit-module requires the systems of organization of educational process not only awareness of this action wide on the whole educational-pedagogical workers and students, substantial high-quality growth of level of methodical work but also considerable financial resources for rigging of audiences by a computer and projection technique, laboratories – by a modern scientific equipment.

The plans of new generation must be instrumental in mobility of students in the process of acquisition of education. In that time the bulky system of standards of higher education (state standard of higher education, industry standards of higher education and standards of higher education of higher educational establishments, that it is fastened at legislative level) which allegedly must be instrumental in mobility of students creates substantial complication at development of the diversified curricula of new generation, in basis of which must be fixed credit-module system of organization of educational process. This fact was side acknowledged in Decision of college of Department of education and

science of Ukraine from 24.04.2003 Protocol of N5/5-4, where in List of necessary terms for introduction credit-module the systems of organization of educational process in higher educational establishments of III-IV of levels of accreditation were acknowledged necessity of the partial walking away from the industry standards of higher education. In relation to an of a particular branch constituent even the necessity of "simplification of structure and maintenance of standards" (Higher school, 2003 '6, №.11) is high-level acknowledged and not to "repeat the errors of the past and procreate documents in 100 and more pages which nobody will use". Consequently, the system of standards of higher education needs drastic alternations, "simplification of structure and maintenance", both on state and on of a particular branch, levels. Future standards must avoid trifling interference with the structure of the educational programs, offered establishments of higher education, and to "become the backer-up of state guarantees at fundamental level". Standards "must also provide maximal варіативність maintenance and structure of preparation in order operatively to take into account the change of priorities at the market of labour" (quotations are from the publication marked higher).

Consequently, at creation of curricula of new generation inevitable is walking away from the operating industry standards of higher education in part, which does not behave to fundamental preparation which must be increased. It should be noted that without regard to all attempts of enthusiasts in industry of preparation of specialists on intellectual property to create normative part of education so far not completed noticeable success. For today this fact can have a positive role: passing of Ukrainian educational space to the requirements of Bolonskogo of process urgently needs revision of these norms sdws diminishing of both amount of objects which are studied and to the amount of educational time which is taken on their study.

Requirements of NMK are from specific categories to the set of disciplines, which must mainly form a specialist on intellectual property today include for itself taking into account obligatory objects labour «protection in industries» and «Physical education» 16-18 disciplines which are in principle unacceptable for 1 – 1,5 of studies. If to assume that theoretical studies will проходити during two semesters, then in obedience to the requirements of Bolonskogo of process the general amount of objects must not exceed 12, максимум 14 objects. At these terms impossible is even implementation of normative part, not to mention about some choice of institute of higher or students. In this connection it is suggested to go back to an already old discussion about three specializations of specialist on intellectual property: economic, legal and creative (innovative). Such approach will allow in a complete or even increased volume to lay out obligatory and selective disciplines of the direction of preparation **chosen a student**. Indeed, in a result a specialist on intellectual property in most cases is in a position to apply the got knowledges only in one of foregoing directions, which is directly related to his mestome of work. Certainly, that is and such jobs of specialists on intellectual property, which need knowledges and economic, and legal, and creative constituents. But, in our view, the percent of such cases is insignificant.

A concordance of volumes of normative educational disciplines of fundamental and загально-інженерного blocks is in the curricula of family directions of preparation both on a volume and after the semesters of teaching, will create the real foundations of mobility of students within the limits of university, and standardization of fundamental level of preparation will provide pre-condition of mobility of students between establishments of education.

If to unify the volumes of selective educational disciplines of all blocks and appoint the unique time of their teaching, then it will create the real terms of між-кафедральної mobility at the level of selective block of educational disciplines.

**Rapprochement of processes of studies and scientific researches** – one of фундаментальних principles of magna charta universitatum, which it was proclaimed in, that "teaching and research work in universities must be inseparable in order that studies in them answered necessities which changes, to the queries of society and achievements in scientific knowledge". In the berlin communique importance of "establishing more close connections was underline between european space of higher education and european space of researches". These requirements of bolonskogo of process need to be taken into account at drafting of curricula of new generation, in which it is needed to foresee strengthening of role and increase of volume of research work of students due to the followings measures:

- introduction of research sections is to diploma works on a receipt bachelor and master's degree;

- introduction to the curriculum of discipline of "Bases of scientific researches";
- planning of implementation of scientific researches is in the second loops of preparation.

**An assistance development of the european aspects in higher education** foresees expansion of collaboration between educational establishments, developments of charts of mobility, creation of the computer-integrated programs of studies and researches. consequently, creating new curricula, it is needed to take into account the followings factors:

- the structures of new curricula (fundamental block) must give possibility of studies of domestic students abroad;
- the structures of new curricula must give possibility of creation of the computer-integrated programs of studies with foreign establishments of higher education – by the partners of NTU "KhPI".

Conceptual principles are formulated higher in a complete measure answer the aims of Bolonskogo of process and must be incarnate in the new generation of curricula.

### Literature

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